

WATER MANAGEMENT PLAN
MEDICINE LAKE NATIONAL WILDLIFE REFUGE
1950

December 29, 1949

GENERAL

Water management plans are well established and appear to have been well outlined in plans previously submitted. Therefore, there seems to be no reason for changing the proposed maximum levels for the calendar year 1950.

The following indicates recommended water levels for the 1950 season, the present water elevations on the various units, and the levels of the spillways on all units that are equipped with spillway structures:

UNIT AREA	SPILL LEVEL	PRESENT ELEVATION	PROPOSED MAX. 1950 LEVELS
Katy's Lake	No Spillway	Below Gauge	1953.00
No. 12	1956.00	1952.04	1954.00
No. 11	1952.54	Below Gauge	1952.54
No. 10	1945.50	1943.64	1945.50
No. 4 (Medicine Lake)	1943.00	1941.40	1943.00
No. 6 (Homestead)	1938.00	1935.40	1938.00

We have experienced drouth conditions all year. Normal precipitation for northeastern Montana amounts to 13.79 inches per year. Since January 1st we received only 8.88 inches of precipitation. In spite of the fact that there was a deficiency of precipitation, we were fortunate last spring. Medicine Lake and the Homestead area filled from run-off from the upper reaches of Muddy Creek. No. 10, 11 and 12 Units filled to spill level from Lake Creek with limited amounts from Cottonwood and Sand Creeks. However, by the time the marsh and water areas froze over on December 19th, water levels on Homestead and the No. 11 Unit were extremely low.

KATY'S LAKE

The plan last year called for keeping as much water out of Katy's Lake as possible as a botulism control measure. This proved to be a very satisfactory arrangement as no sick or dead birds were observed on that unit during the 1949 season. If water is allowed to flow through the structure at the No. 12 Unit into Katy's Lake next spring, it should not be allowed to fill above the 1953.00 level.

No. 12 UNIT

This area was filled last spring from run-off to the approved level. This seemed to be very satisfactory for waterfowl and aquatic plants.

No. 11 UNIT

Last spring this area was filled to spill level and allowed to drop by evaporation throughout the summer months. This proved quite satisfactory and is recommended again for the coming year.

No. 10 UNIT

This area filled during spring run-off to spill level. This area flushed very well as a tremendous amount of water flowed through the 9-F structure into the main lake. No botulism was observed on this area during the summer. The same procedure is recommended again for 1950 if a sufficient amount of spring run-off is available.

No. 4 (MEDICINE LAKE)

The Lake level held up very well this year in spite of the fact that there was a deficiency of rain fall during summer and fall months. The spring run-off from Muddy Creek through the diversion ditch filled Medicine Lake to spill level. However, the run-off was below normal and we only released enough water through the No. 4 structure to fill the Homestead area. Next spring as a preventative measure the No. 1 diversion gates and the No. 4 structure gates should be operated in case of a heavy run-off so the lake level will not raise more than a few inches above spill level so as not to endanger our structures, as well as those of private individuals, and privately owned land.

Just before freeze-up, we opened the No. 1 diversion structure gates and the four radial gates at the Indian Service Dam. If these gates are kept closed all winter they generally freeze up to such an extent that they cannot be opened in time in the spring to handle the run-off without endangering our structures, the highway grade and the town well.


No. 6 (HOMESTEAD AREA)

This area filled to capacity last spring. We would have liked to have flushed it out thoroughly during the spring run-off period as a botulism control measure. This we could not do as the spillway was severely damaged by flood waters during the 1948 spring run-off. However, no sick ducks were observed on this area during the 1949 summer season.

All water control structures appear to be in good condition. This year we placed new flash boards in the No. 6 structure and constructed

a rip-rap on the down stream side at that point. The Homestead spillway was repaired and new skin plates were installed on the four radial gates at the Indian Service Dam.

Respectfully submitted,


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Refuge Manager